

Claims 1, 4-7, 11 and 12 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over von Bonin et al. (US 4,694,030). —

Claims 1, 5, 7, and 8 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over Jonas (US 3,516,959). —

Claims 1-12 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over Horacek (US 6,031,040). —

Claims 1, 2, 4, and 5-12 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over von Bonin (US 4,729,853). —

Claims 1-12 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over von Bonin (US 5,053,148). —

Claims 1-10 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over Goto et al. (US 6,124,394). —

Claims 1-12 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over von Bonin (US 5,094,780). —

Claims 1-4, 6, 7, 11, and 12 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over von Bonin. (US 5,173,515). —

Claims 1, 4, and 6 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over Okisaki et al. (US 5,810,914). —

Claims 1-12 stand rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as obvious over von Bonin (US 5,382,387). —

Claims 1-15 stand rejected under 35 USC §103(a) as being unpatentable over Welna (US 5,578,671) taken with the Michaeli publication taken with von Bonin (any one), Horacek, Brown, Okisaki et al, Saunders, or Jonas as applied to claims 1-12.

The claims contained in the application as filed are believed to be patentable over the cited references for the reasons outlined below.

Independent claim 1 defines a flexible, solid fire sealing composition comprising water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75. Independent claim 13 defines a process for preparing such a fire sealing composition. The composition is adaptable as a glazing strip for window frames, doors, etc. and may be used where pipes and cables pass through openings. The composition can be extruded into various shapes. The compositions, although flexible, have a well defined shape to which they will tend to revert following small deformation. None of the cited

references, whether taken alone or in combination, teach or suggest, implied or express, such a composition.

Saunders (3,455,850) discloses a flame resistant polyurethane foam containing a filler that promotes improved resistance to burning. Saunders, however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75.

For a prior art reference to constitute anticipation, it must not merely approximate or be almost the same as the patent claim in question. Anticipation requires the disclosure of each and every element of the claimed invention. Because Saunders fails to do so, the anticipation rejection is improper. Reconsideration is respectfully requested.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. To support the conclusion that the claimed invention is obvious, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

Because Saunders fails to teach or suggest the claimed invention, and because the Examiner has failed to provide a convincing line of reasoning why the claimed invention would be obvious to one skilled in the art, the obviousness based rejection is improper. In fact, because the fire resistant foam of Saunders is complete and functional in itself, there would be no reason to modify it to meet the claims.

Applicants also disagree with the Examiner's assertion that the flexibility of the Saunders composition resides in its foamed state. Flexibility is not an inherent property of a foam. Rather, flexibility depends on the geometry of an article. Thus, the same foam material may be stiff or flexible depending on the geometry of the particular article. Moreover, there is

no correlation between flexibility and softness and it is erroneous to conclude that materials with similar flexibilities would have similar softnesses. Stainless steel, for example, when formed into a thin wire, is flexible but very hard. A soft foam material, on the other hand, depending on its thickness, would be soft but not flexible. Thus, a flexible material may have any range of softness. Reconsideration is respectfully requested.

Malcolm-Brown (4,599,369) discloses an intumescent rubber or elastomeric composition including at least one organic polyhydroxy compound as carbonific, at least one organic polyamido compound in free and/or combined forms as spumific, an ammonium phosphate as activator for the carbonific, an amino resin as binder, and in addition or instead of one of these components, sodium silicate as an intumescent material. Malcolm-Brown, however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75.

Regarding the Examiner's assertion that the softness values of the claimed invention would be inherent in the reference's compositions, the fact that a certain characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that characteristic. To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. In relying on the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Because the extrinsic evidence does not make clear that the claimed composition or claimed softness values are necessarily present in the Malcolm-Brown composition, and further because the Examiner has not provided a basis in fact or technical reasoning to reasonably support the determination that the allegedly inherent softness value flows from the teaching of the Malcolm-Brown reference, the inherency rejection is improper. Reconsideration is respectfully requested.

Von Bonin et al. ('030) discloses intumescent polysiloxane molding composition containing expandable graphite compounds and, if appropriate, additional nitrogen containing phosphates. Von Bonin et al. ('030), however, fail to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the

composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. Accordingly, the teachings of this reference in no way render the present invention unpatentable. In addition, for the reasons set forth above with respect to the Malcolm-Brown reference, the inherency rejection is believed to be improper.

Jonas (3,516,959) discloses a composition including a mixture of at least one flame retardant with an organophilic cation modified clay. The composition is used as an additive for imparting flame-retardancy and drip resistant properties to combustible synthetic thermoplastic polymer, such as polystyrene, polyethylene, polypropylene, nylon and the like, which drip when heated beyond their softening points. Jonas, however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. Accordingly, the teachings of this reference in no way render the present invention unpatentable. Reconsideration is respectfully requested.

Horecek (6,031,040) discloses an intumescent mixture including thermoplastic elastomers, expandable graphite, flame retardants, inorganic fillers, and inorganic fibers. Horecek, however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. Accordingly, the teachings of this reference in no way render the present invention unpatentable. Reconsideration is respectfully requested.

Von Bonin ('853) discloses flame-retarding sealing compounds based on hydraulic binders, optionally mixed with other fillers and other auxiliaries, characterized in that they contain additions of melamine and dehydratable fillers. Von Bonin ('853), however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. Accordingly, the teachings of this reference in no way render the present invention unpatentable.

Applicants also disagree with the Examiner's assertions that the claimed softness values would be inherent in the Von Bonin ('853) compositions since they are similarly flexible. There is no correlation between flexibility and softness and it is erroneous to

conclude that materials with similar flexibilities would have similar softnesses. Stainless steel, for example, when formed into a thin wire, is flexible but very hard. A soft foam material, on the other hand, depending on its thickness, would be soft but not flexible. Thus, a flexible material may have any range of softness. Reconsideration is respectfully requested.

Von Bonin ('148) discloses heat resistant foams that are obtainable by heating metal phosphonates or metal phosphonate precursors to temperatures above 200 °C. The foams may include additives such as expandable graphite, expandable borates, silicates, and/or borosilicates, expandable micas, vermiculites and/or perlites. Von Bonin ('148), however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. Accordingly, the teachings of this reference in no way render the present invention unpatentable.

Applicants disagree with the Examiner's assertion that the foamed nature of the von Bonin ('148) product indicates flexibility. Flexibility is not an inherent property of a foam. Rather, flexibility depends on the geometry of an article. Thus, the same foam material may be stiff or flexible depending on the geometry of the particular article. In addition, as explained above, flexibility is not an indication or measure of softness. Applicants further disagree with the Examiner's conclusory statement that the claimed softness values are inherent in the reference's composition given their common ingredients, proportions, and applications. The fact that the von Bonin ('148) foams differ substantially from the claimed invention is clear from the fact the von Bonin ('148) discloses foams. The present invention is not a foam and foams would not be expected to have the claimed softness values. The Examiner has also failed to indicate what the common ingredients, proportions, and applications are that led to the conclusion that the softness values would be inherent. In order for one to arrive at the claimed invention, without the benefit of the present application, one would have to select the particular ingredients from those disclosed in the reference and then would be further required to select the proper proportions. The cited reference, however, provides no such teachings and the Examiner has provided no basis for why one would be motivated to do so. Moreover, in the absence of the teachings provided by the present application, there would be no expectation of success if one were to do so.

Goto et al. (6,124,394) discloses a fire retardant tablet including heat expandable graphite, and a water soluble fire retardant synergist or one containing additional water

insoluble fire retardant synergist. Goto et al., however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. In addition, for the reasons set forth with respect to the above rejections, Applicants disagree that the claimed softness values would be inherent in the Goto et al. compositions. Accordingly, the teachings of this reference in no way render the present invention unpatentable.

Von Bonin ('780) discloses intumescent mouldings including expandable graphite, binder, and filler material. Von Bonin ('780), however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1.

Moreover, Von Bonin ('780) provides an extensive list of more than sixty (60) suitable binders from which to choose that can be present in quantities of 0 to 80% by weight relative to the expandable graphite. Von Bonin ('780) similarly provides a long list of fillers that can be added in quantities from 0 to 1000% by weight relative to the expandable graphite. Given the large number ingredients and quantities to chose from and the absence of any teachings of how one would be expected to chose them to arrive at the present invention, Applicants disagree that the claimed softness values are inherent in the Von Bonin ('780) compositions.

Von Bonin et al. ('515) discloses fire retardant foams including expandable graphite, amine salts, and phosphorous polyols. Von Bonin ('515), however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. Accordingly, the teachings of this reference in no way render the present invention unpatentable. Reconsideration is respectfully requested.

Okisaki et al. (5,810,914) disclose a flame retardant engineering plastic composition comprising engineering plastic, heat expandable graphite, and red phosphorus and/or phosphorus compound. Okisaki et al., however, fail to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the

composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1. In addition, for the reasons set forth with respect to the inherency rejections discussed above, and further because Okisaki et al. do not teach or suggest selecting a composition having the properties set for above in claim 1, Applicants disagrees that the softness values would be inherent in the Okisaki et al. compositions given their common composition and utility. Accordingly, the teachings of this reference in no way render the present invention unpatentable. Reconsideration is respectfully requested.

Von Bonin ('387) discloses mouldings including expandable graphite and additionally include acid phosphates of metals and, optionally, other additives. Von Bonin ('387), however, fails to disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1.

For the reasons set forth with respect to the inherency rejections discussed above, Applicants disagrees that the softness values would be inherent in the Von Bonin ('387) compositions. In addition, because Von Bonin ('387) does not teach or suggest selecting a composition having the properties set for above in claim 1 and further because the Examiner has failed to explain the commonality between the claimed invention and the von Bonin ('387) compositions, Applicants disagrees that the softness values would be inherent in the Von Bonin ('387) compositions given the commonality of the ingredients and their proportions. Accordingly, the teachings of this reference in no way render the present invention unpatentable. Reconsideration is respectfully requested.

Further with respect to each of the above rejections, Applicants note that while the Examiner has referred to selected portions of the cited references, in each case it is unclear how those portions are relevant to the claimed invention for either the 102(b) rejections or the 103(a) rejections, and Applicants fail to see how those selected portions can be construed to anticipate the claimed invention or otherwise render it unpatentable.

A claim is anticipated only if each and every element as set for in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. Since the Examiner has failed to identify where each of the claimed elements can be found in the cited references, the rejections based on 102(b) are improper.

With respect to the rejections based on 103(a), the Examiner has failed to identify the difference or differences between the claimed invention and the applied reference, the proposed modification of the applied reference necessary to arrive at the claimed subject matter, or and explanation of why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

In rejecting the claims, the Examiner has simply cited selected portions of the references and has relied on those portions to reject the claims without applying the selected portions to the claimed invention, applying the teaching of the references to the claimed invention, or providing an explanation of the relevance of the selected portions. Applicant is therefore left guessing as to the relevance of the cited portions and is left guessing as to how to respond. In order to more clearly identify the issues, the Examiner is requested to provide and explanation indicating specifically where each of the claimed features can be found in the cited references.

Welna (5,578,671) discloses an intumescent putty. The term “putty” refers to “a cohesive, moldable material that does not substantially flow at ambient temperatures” (col. 1, lines 64-65). The putty is described as “indefinitely conformable” (col. 1, line 37), as having the ability to be shaped or molded by hand with ease (col. 2, lines 44-45) and as “soft and pliable” (col. 3, lines 13-14). These properties of the putty are quantified in terms of the putty’s softness value which is “at least 4 mm preferably, at least 4.5 mm; more preferably at least 5mm; and even more preferably, at least 6 mm)” (col. 1, lines 31-33).

Thus, Welna is directed to an intumescent material having a specific and desired level of softness and moldability, and all of the compositions disclosed by Welna share this property. While the Welna putty has its own utility, Welna does not recognize or appreciate the utility of an intumescent material having a softness value less than 4 mm, and it appears that such an intumescent material would not be suited for the applications for which the Welna intumescent putty was designed. Since any composition not having a softness value of at least 4 mm is undesirable according to Welna, Welna implicitly teaches away from a composition having a softness value of less than about 3.75 mm as required by the present invention.

In addition, Welna, whether taken alone or in combination with any of the cited references, fails to provide any teaching or suggestion to modify the intumescent putty to not be soft (i.e. to be hard). Rather, the Welna disclosure characterizes the intumescent putty material in terms of its ability to be moldable, indefinitely conformable, and as having a softness value of at least 4 mm. If the intumescent putty were modified to have the softness

value of the present invention as suggested by the Examiner, it would no longer be "putty" within the meaning of Welna, and would not have the utility of a putty. Thus, the modification suggested by the Examiner would change the essential character of the intumescient material and take it outside the scope of the Welna disclosure. Furthermore, since the purpose of Welna is to provide an intumescent putty, the Examiner's suggested modification is inconsistent with the teachings of Welna. At the time the present invention was made, one skilled in the art would not be motivated to make the modification suggested by the Examiner.

It also appears that the Examiner's rejection of claims 1-15 over the cited art exemplifies a case of impermissible hindsight reconstruction, wherein the cited references have been modified or combined to arrive at the present invention only because of the knowledge of applicants' own disclosure. Without the benefit of applicants' application, however, one having knowledge of the cited references would have no reason to modify them in the manner suggested by the Examiner, and would therefore not be able to arrive at the present invention as defined in claims 1-15. Accordingly, the rejection of claims 1-15 as being unpatentable over the cited references is unwarranted and should be withdrawn. Reconsideration is respectfully requested.

Furthermore, the mere fact that a reference can be modified or combined with another reference does not render the resultant modification or combination obvious unless the prior art also suggests the desirability of the modification or combination. The cited references contain no such suggestion, and the Examiner has failed to provide any convincing reasoning to support the suggested combination or modification. Rather, each of the cited references has its own utility and is complete and functional in itself, so there would be no incentive to modify them.

In summary, since none of the cited references disclose, teach, or suggest a fire sealing composition including water-insoluble intumescent mineral granules, a thermoplastic or thermosetting, halogen-free binder, and a phosphorus containing flame retardant, wherein the composition has a softness value from about 0.01 to about 3.75 as defined in independent claim 1, or teach or suggest selecting a composition having the properties defined in claim 1, claim 1 is believed to be patentable over the cited references. The remaining dependent claim, as depending from an allowable independent claim, are also deemed to be in condition for allowance.

Please charge any fees required to enter this Response/Amendment or credit any overpayments to Deposit Account No. 13-3723.

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